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EXAMINER	
BORISSOV, IGOR N	
ART UNIT	**PAPER NUMBER**
3628	

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/789,155	BERRY, MATTHEW P.	
	Examiner	Art Unit	
	Igor Borissov	3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6-9,16 and 21-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6-9,16 and 21-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Preliminary amendment received on 02/27/2004 is acknowledged and entered. Claims 2-5, 10-15, 17-20 have been canceled. Claims 1, 6,16, 21 and 23 have been amended. New claims 24-30 have been added. Claims 1, 6-9, 16, 21-30 are currently pending in the application.

Claim Objections

Claim 21 is objected to because of the following informalities:

Claim 21 includes a word "representa", which appears to be misspelled.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 6-9, 16, 21-23 and 25-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The following new matter is included in the claims:

Claim 1 includes the phrase: "the waste being disposed within a container bearing a representation of content and *volume*", which is not disclosed in the specification.

Specification, page 9, lines 4-11 and 18-21 includes the following explanation of what type of information is included into said representation:

"Consequently, the containers of the present invention have some characteristic that promotes future redeemability. Each container:

* Enables identification of the contents;
* Enables identification of a relative value;
* Promotes a market valuation;
* Enables identification of an approximate *weight* (either *explicitly* or based on value);
* Is itself recyclable, where commercially practicable; and
* Promotes efficient future redemption.";

and

"According to step 310, an amount of recyclable waste is identified. Preferably, the *amount* of recyclable waste is identified according to the indicia on each container of recyclable waste. Of course, other forms of identification are possible, such as *weighing the amount* of each type of recyclable waste, including for example, glass, plastic, metal and paper."

In other words, said container can include representation of the amount of said waste in terms of weight, not in terms of volume. If said indicia does not include the weight of the waste inside the container, than the amount of the waste is determined by weighting the contents of the container (amount of said waste).

Claim 16 includes the phrase: "receive a container identifier representing content and *pre-estimated volume* of recyclable waste", which is not disclosed in the specification (See reasoning applied to claim 1).

Claims 23, 26 and 30 include the phrase: "*pre-estimated volume* of recyclable waste", which is not disclosed in the specification (See reasoning applied to claim 1).

Claims 28 and 30 include the phrase "*employing a mathematical formula*", which is not disclosed in the specification.

Claims 27 and 29 require a method step of: "*employing* a lookup table indexed according to the indicia". The specification does not disclose said "employing" step. There is no indication in specification regarding *employing,*

using or somehow accessing a lookup table. Tables A and B on pages 6 and 7 merely provide examples of how "*an identification system could be fashioned using the color of bags to denote the contents and the color of a stripe on a bag to denote a CUR value. For example, a red bag with a white stripe would contain 0.10 CUR worth of recyclable plastic. Following the same example, a blue bag with a light blue stripe would contain 1 CUR of recyclable glass. Other examples of means for indicating the contents and relative value of a bag of recyclables include, for example, bar-coded material and value information, informational stickers applied to a container, symbols representing recyclable materials and/or values. Of course, the present invention includes any convention identification means.*"

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> **The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

Claim 29 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 29 appears to be exact copy of claim 27, which is confusing.

Claim Rejections - 35 USC § 101

> **35 U.S.C. 101 reads as follows:**
> **Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.**

Claim 24 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In determining whether the claimed subject matter is statutory under 35 U.S.C. 101, a practical application test should be conducted to determine whether a "useful, concrete and tangible result" is accomplished. See *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1359-60, 50 USPQ2d

1447, 1452-53 (Fed. Cir. 1999); *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1600 (Fed. Cir. 1998).

An invention, which is eligible or patenting under 35 U.S.C. 101, is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The fundamental test for patent eligibility is thus to determine whether the claimed invention produces a "use, concrete and tangible result". The test for practical application as applied by the examiner involves the determination of the following factors":

(a) "Useful" – The Supreme Court in *Diamond v. Diehr* requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished. Applying utility case law the examiner will note that:

i. the utility need not be expressly recited in the claims, rather it may be inferred.

ii. if the utility is not asserted in the written description, then it must be well established.

(b) "Tangible" – Applying *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is nonstatutory under 35 U.S.C. 101. In *Warmerdam* the abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium, which enabled its functionality to be realized.

(c) "Concrete" – Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. An appropriate rejection under 35 U.S.C. 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

The claim, as currently recited, appear to be directed to nothing more than a series of steps including receiving, identifying, and determining data, such as value of recyclable weight without any useful, concrete and tangible result and are therefore deemed to be non-statutory. Even if we assume that said steps are to be performed by a computer (of which there is no indication in the claim), and while this value may be concrete and/or tangible, there does not appear to be any useful result. Furthermore, the invention does not require physical acts to be performed outside the computer independent of and following the steps to be performed by a programmed computer, where those acts involve the manipulation of tangible physical objects and result in the object having a different physical attribute or structure. See *Diamond v. Diehr*, 450 US at 187, 209 USPQ at 8. As per "determining" step per se, this step has no direct effect on the physical world outside the computer. Thus, the claimed invention merely inputs data into the system and performs a mathematical algorithm without any limitation to a practical application as a result of the algorithm or outcome and is therefore deemed to be non-statutory.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Hulls (US 5,628,412).

Claim 24. Hulls teaches a method for billing a customer for waste collection, comprising:

receiving a container of recyclable waste (C. 2, L. 63-65);

identifying an indicia on the container representing at least two physical properties of the recyclable waste (C. 2, L. 63 – C. 3, L. 18);

determining a value of the recyclable waste based on the indicia (C. 4, L. 25-29).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 6-9, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hulls in view of Tseng (US 5,416,279).

Claim 1. Hulls teaches a method for billing a customer for waste collection, comprising:

receiving from a customer a pre-estimated amount of recyclable waste, the waste being disposed within a container bearing a representation of content (C. 2, L. 63 – C. 3, L. 18);

identifying an the pre-estimated content of recyclable waste based on the representation of the container (C. 2, L. 63-65);

determining a credit value based on the pre-estimated amount of recyclable waste (C. 4, L. 25-29);

reporting (crediting customer's account) the credit value to the customer (C. 4, L. 25-29).

Hulls does not specifically teach that said representation of content includes representation of *volume/weight* consistent with the pre-estimated amount of recyclable waste; and *identifying an the pre-estimated amount of recyclable waste based on the representation of the container.*

Tseng teaches a method and system for a trash bag weight indicator, comprising the trash bag having imprinted numerical values of weight to provide a visual indication of the approximate weight of the trash bags. Specifically, the numerical weight values are arranged as bands about the girth of the bag, with the imprinted material being gathered in and covered with a force-releasable strip of material. Each imprinted band and its accompanying force-releasable element are associated with a different value of weight, so that when the receptacle is lifted, a user may ascertain an approximate value of the weight of the contents by referring to the indicia associated with released and un-released elements (Abstract; Summary).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hulls to include that said representation of content includes representation of *volume/weight* consistent with the pre-estimated amount of recyclable waste; and *identifying an the pre-estimated amount of recyclable waste based on the representation of the container*, as disclosed in Tseng, because it would advantageously allow to avoid complex weighting devices for determining waste weight, thereby save funds, as specifically disclosed in Tseng (C. 1, L. 31-53).

Claims 6, 8, 9, 25 and 26. See reasoning applied to claim 1.

Claim 7. Tseng teaches charging for non-recyclable waste (C. 1, L. 27-30). The motivation to combine the references would be to provide funds for rubbish removal (Tseng; C. 1, L. 28).

Claims 16, 21-23, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hulls in view of Tseng and further in view of Warsing et al. (US 5,842,652).

Claims 16 and 23. Hulls teaches a system for billing a customer for waste collection, said system is adapted to:

receive a container identifier representing content of recyclable waste (C. 2, L. 63 – C. 3, L. 18);

determine a credit value associated with the recyclable waste based on the container identifier (C. 4, L. 25-29);

receive non-recyclable data representing non-recyclable waste (C. 4, L. 5-6);

apply the credit value to a customer account (C. 4, L. 25-29);

report the credit value to the customer for payment or credit (C. 4, L. 25-29).

Hulls does not specifically teach that said representation of content includes representation *of* volume/weight consistent with the pre-estimated amount of recyclable or non-recyclable waste; and identifying an the pre-estimated amount of recyclable or non-recyclable waste based on the representation of the container.

Tseng teaches a method and system for a trash bag weight indicator, comprising the trash bag having imprinted numerical values of weight to provide a visual indication of the approximate weight of the trash bags. Specifically, the numerical weight values are arranged as bands about the girth of the bag, with the imprinted material being gathered in and covered with a force-releasable strip of material. Each imprinted band and its accompanying force-releasable element are associated with a different value of weight, so that when the receptacle is lifted, a user may ascertain an approximate value of the weight of the contents by referring to the indicia associated with released and un-released elements (Abstract; Summary).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hulls to include that said representation of content includes representation of *volume/weight* consistent with the pre-estimated amount of recyclable waste; and *identifying an the pre-estimated*

amount of recyclable waste based on the representation of the container, as disclosed in Tseng, because it would advantageously allow to avoid complex weighting devices for determining waste weight, thereby save funds, as specifically disclosed in Tseng (C. 1, L. 31-53). Furthermore, Tseng teaches charging for non-recyclable waste (C. 1, L. 27-30). The motivation to combine the references would be to provide funds for rubbish removal (Tseng; C. 1, L. 28).

While Hulls and Tseng teaches a system adapted to provide the recited functionality, the combination does not explicitly teach a processor/memory for enabling said functionality.

Warsing et al. (Warsing) teaches a system for billing a customer for waste collection, wherein charges or credits are applied to a customer account based on whether said waste is recyclable or non-recyclable a, and wherein said system comprises a computer for implementing said functionality ((C. 5, L. 26; C. 6, L. 12-24; C. 8, L. 23-30).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hulls and Tseng to include, that said system comprises a processor/memory for enabling said functionality, as disclosed in Warsing, because it would advantageously allow to automate the process and automatically correlate the weight of each waste bag with the identification of each household to implement possible adjustments in the billing each individual household, as specifically stated in Warsing (C. 8, L. 21-30).

Claims 21 and 22. See reasoning applied to claim 16.

Claims 28 and 30. The use of the computer in Warsing for calculating possible credit based on the value of the recyclable waste indicates employing certain algorithm/formula for doing so.

Claims 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hulls in view of Tseng and further in view of Doak (US 6,144,004).

Claims 27 and 29. Hulls and Tseng teaches all the limitations of claims 27 and 29, except specifically teaching that said determining includes employing a lookup table indexed according to the indicia.

Doak teaches a computer-implemented method of sorting waste and recyclable materials based on color coding, wherein a look up table is employed (C. 5, L. 45-47).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hulls and Tseng to including that said determining includes employing a lookup table indexed according to the indicia, as suggested by Doak, because it would advantageously allow to optimize said method for high speed numerical processing, as specifically stated in Doak (C. 3, L. 39-40).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see form PTO-892).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Igor Borissov whose telephone number is 571-272-6801. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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11/10/2006

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